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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,309	12/03/2001	Takahiro Kawashima	PW 0277024 H7605US	7933

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EXAMINER
SAMS, MATTHEW C

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 March 2006</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-10</u> is/are pending in the application.

    4a) Of the above claim(s) <u>2</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) <u>1 and 3-10</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action has been changed to reflect the amendment filed on 12/15/2005.

Response to Arguments

2. Applicant's arguments filed 12/15/2005 have been fully considered but they are not persuasive.

In response to the applicant's argument regarding the failure of Suzuki et al. teaching the "decoder limitation" (Pages 9 & 10), it is the examiner's opinion that Suzuki et al. teaches as the applicant stated, "[s]uccessively outputs the quantized difference code C(n) of the attack portions ATC (i.e. compressed data representative of attack portions of musical tone waveforms) to the decoding circuit". Suzuki et al. further teaches a program number (Col. 13 lines 22-34 [frame]) that is read out from waveform storage and included in the supplied tone color changing instruction data. (Col. 11 line 29 through Col. 13 line 60, Fig. 3A, Fig. 3B and Fig. 4) Therefore, since Fig. 4 shows the attack portions ATC and the repeat portion RPT included in the same musical waveform, stored in data memory (Fig. 3B [135]) and the repeat portion is read out repeatedly to reproduce the whole waveform of the musical tone (Col. 11 lines 6-28) from a frame (Col. 12 line 47 through Col. 13 line 60), the "decoder limitation" is taught by Suzuki et al.

The dependent claim's original rejection is maintained in view of the further

explanation.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1, 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Suzuki (US-5,777,249) in view of Suzuki et al. (US-4,916,996).

Regarding claim 1, Suzuki teaches a tone generator system (Fig. 1) comprising a

first storage (Fig. 1 [DM]) for compressed waveform data. (Col. 2 lines 54-55) Suzuki

teaches a first decoder (Fig. 1 [DEC2]) that responds to tone color changing instruction

data (Fig. 1 [TS]) included in musical composition data to be reproduced by reading out

from the first storage (Fig. 1 [DM]), a compressed waveform data corresponding to the

tone color changing instruction data. (Col. 3 line 55 through Col. 4 line 10) Suzuki

teaches decoding the compressed waveform data into waveform data in a pulse code

modulation format. (Col. 6 lines 49-59) Suzuki teaches a tone generator system (Fig.

1) with a section that is responsive to sounding instruction data included in the musical

composition data to be reproduced by generating musical tones based on the waveform

data in the pulse code modulation format stored in the second storage (Fig. 1 [DLY2]).

(Col. 2 line 58 through Col. 3 line 8 and Col. 6 lines 49-59) Suzuki teaches supplying

sections for tone color changing data as being the system memory. (Fig. 1 [DM])

Suzuki differs from the claimed invention by not explicitly reciting a second storage that

is for waveform data in the pulse code modulation format decoded by the first decoder

and that the compressed waveform data is read out based on the program number

included in the supplied tone color changing data.

In an analogous art, Suzuki et al. teaches a musical tone generating apparatus

with a first memory means for storing compressed waveform data and a second

memory means for waveform data in the pulse code modulation format decoded by the

first decoder. (Col. 2 line 41 through Col. 3 line 19, Col. 4 lines 44-53 and Fig. 2A [106

& 107]) Suzuki et al. further teaches a program number (Col. 13 lines 22-34 [frame])

that is read out from waveform storage and included in the supplied tone color changing

instruction data. (Col. 11 line 29 through Col. 13 line 60, Fig. 3A, Fig. 3B and Fig. 4)

Suzuki et al. teaches the attack portions ATC and the repeat portion RPT are included

in the same musical waveform, stored in data memory (Fig. 3B [135]) and the repeat

portion is read out repeatedly from a frame (Col. 12 line 47 through Col. 13 line 60) to

reproduce the whole waveform of the musical tone (Col. 11 lines 6-28) to the decoder.

(Fig. 3B) At the time the invention was made, it would have been obvious to one of

ordinary skill in the art to implement the invention of Suzuki after modifying it to

incorporate the second memory and waveform data read out from frames in order to

reproduce the musical data of Suzuki et al. One of ordinary skill in the art would have

been motivated to do this since generating musical tones that replicate acoustic musical

instruments requires an extensive amount of memory; so using partial waveforms mixed

together to reproduce the many variations of waveforms saves on the required memory and lowers costs. (Col. 1 lines 15-55 and Col. 11 lines 6-28)

Regarding claim 3, Suzuki teaches a tone generator system (Fig. 1) with a second waveform storage capable of storing waveform data inputted by a user. (Col. 4 line 18-34 and Fig. 1 [S$_n$])

Regarding claim 4, Suzuki teaches a tone generator system (Fig. 1) with a decoder (Fig. 1 [DEC2]) that is capable of decoding compressed audio stream data inputted from an external device. (Col. 8 lines 10-20 and Fig. 1)

Regarding claim 5, Suzuki teaches a tone generating method (Suzuki Fig. 1) including a decoding step for reading data from the first compressed waveform storage to at least one tone color changing instruction data included in musical composition data to be reproduced. (Suzuki Col. 3 line 55 through Col. 4 line 10) Suzuki teaches decoding the readout compressed waveform data into pulse code modulation format according to tone color changing instruction data. (Suzuki Col. 3 line 47 through Col. 4 line 10 and Col. 6 lines 49-59) Suzuki teaches a tone generator system (Fig. 1) with a section that is responsive to sounding instruction data included in the musical composition data to be reproduced by generating musical tones based on the waveform data in the pulse code modulation format stored in the second storage. (Suzuki Col. 2 line 58 through Col. 3 line 8 and Col. 6 lines 49-59) Suzuki teaches supplying sections for tone color changing data as being the system memory. (Fig. 1 [DM]) Suzuki differs from the claimed invention by not explicitly reciting a second storage that is for waveform data in the pulse code modulation format decoded by the first decoder and

that the compressed waveform data is read out based on the program number included in the supplied tone color changing data.

In an analogous art, Suzuki et al. teaches a musical tone generating apparatus with a first memory means for storing compressed waveform data and a second memory means for waveform data in the pulse code modulation format decoded by the first decoder. (Col. 2 line 41 through Col. 3 line 19, Col. 4 lines 44-53 and Fig. 2A [106 & 107]) Suzuki et al. further teaches a program number (Col. 13 lines 22-34 [frame]) that is read out from waveform storage and included in the supplied tone color changing instruction data. (Col. 11 line 29 through Col. 13 line 60, Fig. 3A, Fig. 3B and Fig. 4) Suzuki et al. teaches the attack portions ATC and the repeat portion RPT are included in the same musical waveform, stored in data memory (Fig. 3B [135]) and the repeat portion is read out repeatedly from a frame (Col. 12 line 47 through Col. 13 line 60) to reproduce the whole waveform of the musical tone (Col. 11 lines 6-28) to the decoder. (Fig. 3B) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement the invention of Suzuki after modifying it to incorporate the second memory and waveform data read out from frames in order to reproduce the musical data of Suzuki et al. One of ordinary skill in the art would have been motivated to do this since generating musical tones that replicate acoustic musical instruments requires an extensive amount of memory; so using partial waveforms mixed together to reproduce the many variations of waveforms saves on the required memory and lowers costs. (Col. 1 lines 15-55 and Col. 11 lines 6-28)

Regarding claim 6, the limitations of claim 6 are rejected as being the same reason set forth above in claim 1.

Regarding claim 7, the limitations of claim 7 are rejected as the same reason set forth above in claim 3.

Regarding claim 8, the limitations of claim 8 are rejected as the same reason set forth above in claim 4.

Regarding claim 9, the limitations of claim 9 are rejected as the same reason set forth above in claim 3.

Regarding claim 10, the limitations of claim 10 are rejected as the same reason set forth above in claim 4.

Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Sams whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MCS
3/5/2006

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SUPERVISORY PRIMARY EXAMINER